

IDEM Headwater Forum

4th Stakeholder Roundtable – Meeting Minutes
March 28th, 2008; 12:30 PM – 4:00 PM; State Conference Center

PUBLIC WORKSHOP

The morning workshop session was held from 9:00 – 12:00 noon in the auditorium with approximately 85 people in attendance.

- **Steve Jones** of Environmental Services, Inc. presented on stream restoration from a mitigation banking perspective using a form-based approach (i.e. Rosgen approach), then
- **Dr. Andrew Simon**, of the USDA Agricultural Research Service National Sedimentation Lab, presented on channel disturbance and evolution and the implications for stream restoration using a process-based approach.

Both presentations were well received and there was a good contrast between a form-based and a process-based approach to stream stability and restoration.

STAKEHOLDER ROUNDTABLE

Boxed lunches were provided in Conference Room 1 & 2 for the Roundtable Stakeholders. The stakeholder meeting began at approximately 1:00 with the stakeholders introducing themselves and their involvement in stream permitting and restoration and sharing one thing they've learned as part of this process.

Steve Jones, ESI
Joshua Douglass, ACRT, Inc.
Alicia Bever, Davey Resources Group
Mike Litwin, USFWS
John Eggen, DNR
John Ritchey, USACE
Matt Buffington, DNR DFW
Liz Pelloso, IDEM
Eric Fry, Indiana Coal Council
Chris Meador, American Structure Point
Todd Stevenson, Monroe County
James Robb, IDEM
Michelle Allen, INDOT
Tom Allenson, USACE
Chris Knochel, ICSA
Robert Barr, CEES

Bret Robinson, USGS
Steve Hall, Stantec
George Athanasakes, Stantec
Marylou Renshaw, IDEM
Martha Clark Mettler, IDEM
Dennis Wichelns, Hanover College
David Urban, Land & Water Resources
Ken Brasseur, Platinum Resources
Jaime Sias, BLA
Doug Shelton, Corps-Louisville
Brett Fisher, Earth Source, Inc.
Heather Bobich, JFNew
Amy Smith, JFNew
Dan Myers, Land & Water Resources
John Ryan, Land & Water Resources

The facilitator, Mike Schlegel, then reviewed the core tenants of collaborative decision making and reminded the group of the key ground rules before drawing a simple conceptual diagram of a diamond to represent the collaborative process. The diamond shape represents a starting point, a diverging section as the ideas get wider and a converging section where they narrow to the ending point. The goal for the meeting was to continue to converge to a series of final recommendations for IDEM.

REVIEW OF PAST DISCUSSIONS AND CONCLUSIONS

The facilitator provided a review of the decisions made by the group and the process at each of the quarterly meetings. Through the roundtables, the group determined that the top three most important functions of streams are: 1.) wildlife and fish habitat, 2.) transport of water and sediment (stable geomorphology), and 3.) nutrient processing and uptake (biogeochemical processing for water quality).

The group had also compiled a list of criteria for an assessment protocol, the top five criteria were:

- science-based
- quick and easy to implement (straightforward)
- consistent outcomes (replicable, objective)
- able to target mitigation (accurate), and
- implemented with existing resources

DISCUSSION OF IMPACTS

The group then began an open conversation about impacted resource quality and whether the quality of the impacted resource matters. For example, does it matter if you impact an ephemeral ditch vs. impacting an intact perennial stream. The following section identifies the conclusion and comments during the discussion.

Stakeholder Group Conclusion about Assessing Impacts:

The first principle for IDEM's 401 Water Quality Program is to protect the biological, physical and chemical properties of Waters of the State. And further, to ensure adequate compensation is made for permitted impacts (from dredging and filling) to the functions and values of Waters of the State so there is no loss of water quality.

Likewise, the U.S. Army Corps of Engineers (USACE) has a similar mandate to protect the Waters of the U.S. and to ensure adequate compensation is made for permitted impacts (from dredging and filling) to the functions and values of Waters of the U.S. Their goal is to strike a balance between the impacted functions and the functions being restored. In addition, the USACE is careful not to require applicants to "pay for sins of the past" (i.e. try not to make them restore more than is necessary to compensate for the impacts.)

The group was asked if and how quality matters, and after some discussion, most stakeholders indicated, yes, that the quality of the impacted resource matters. Some of the ways to measure and assess impacts include:

- Temporal – temporary, recurring and permanent
- Spatial – size and shape
- Effect – direct and indirect
- Cumulative
- Flow regime – ephemeral, intermittent and perennial

Other Stakeholder Comments and Questions:

- For assessment, a quality factor can be a tool for protection and restoration.
- Quality of impact can be a deterrent to stay out of high quality systems.
- Quality should be addressed on both the impact and mitigation sides.
- If you didn't differentiate by quality, you could impact a high quality stream and replace a ditch.
- Major and minor impacts need to be defined.
- A watershed approach is needed for impact assessment.
- An approach is best if it engages and satisfies other state water programs.

- The social goal of each mitigation site should be determined.
- The beneficial uses of water in Indiana should be defined.
- IDEM has a list of state waters where a general permit is not usable.
- There are ways of degrading a stream without a permit.
- For IDEM, 150' or more of stream impact is the general trigger for mitigation.

DISCUSSION OF ASSESSMENT TOOLS

During a discussion of using a ratio vs. index-based approach to mitigation, it became apparent that there are many similarities between the two and that a hybrid approach is available to combine components of each methodology. There was a desire to make sure mitigation was fair, predictable, and cost effective while maximizing the incentives for innovative, integrated, watershed-based, targeted ways to increase functional uplift. **The functional uplift from the mitigation project should be equal or greater to the functions loss at the impact site.**

A listing of all the appropriate available tools is needed that describes the appropriate system, the functions it evaluates and its applications and bounds. IDEM needs a list with details of each tool. Below is a short list of some of the potential assessment and characterization tools available:

- Qualitative Habitat Evaluation Index and Headwater Habitat Evaluation Index (QHEI and HHEI)
- Rapid Geomorphic Assessment (RGA)
- Index of Biological Integrity (IBI)
- List of Exceptional or Impaired Waters (303d)
- Fish Surveys
- Rapid Bioassessment Protocol
- Pfankuk (bed and bank assessment)
- Channel Evolutionary Stage
- Rosgen Classification

There was a discussion about use of the tools, and the following suggestions were made:

- Make sure the tool is appropriate for the system
- Make sure the tool is appropriate for the region (ecoregion)
- Make sure the tool is able to be consistently applied and reapplied
- Make sure to use tools for habitat, geomorphology and nutrient processing

Based on the comments and discussions of the group, it seems that as long as there is a replicable range of scores and it holds up to the other characteristics from previous meetings (i.e. straight forward, science-based, etc.), an approach that uses available tools to establish habitat, geomorphic and water quality scores and uplift or loss at both the impact site and mitigation site is desired by the stakeholders.

Other Stakeholder Comments and Questions:

- Make sure to know what the boundary conditions for each tool are.
- Make assessment usable to multiple agencies.
- The QHEI and HHEI are in use today in Indiana, and can be consistent with training.
- The tool should be used consistently on impacted and mitigation streams before and after actions.
- Primary upper headwater streams are different; we need a tool for low-order systems.
- Applicants need to know in advance what mitigation will be required.

DISCUSSION OF MITIGATION

After a short break, the stakeholders discussed mitigation. Several factors emerged during the discussion but the core conclusion was this: stream mitigation should be focused on a fair and balanced approach to compensate for the functions and values lost to permitted impacts and applicants should be encouraged to maximize the functional uplift. Other desirable factors include:

- We should require functional uplift at the mitigation site equal to the functional loss at the impact site.
- We should be able to show an improvement from the baseline before and after mitigation using an assessment tool.
- We should maximize the potential for ecological success.
- The mitigation approach should focus on functions.

There was a discussion of different factors of mitigation including the location of the site and the order of the mitigation vs. the impacted site. Ultimately, though, the comments focused on keeping as many options open to allow innovative projects that offer a diverse package of mitigation, rather than identify criteria that would create boundaries.

The group was asked how does mitigation location matter. The answers included:

- One way is that mitigation can't be done within a drainage easement along a legal drain; legal drains affect the types of mitigation opportunities.
- We should be cognizant of moving functions and values from one watershed to another.
- How close the mitigation site is to the impact site often affects the mitigation ratio.
- From a banking perspective, the service area must be large enough to sustain the bank.
- From a watershed approach, impacting an "impaired" watershed and doing mitigation in a watershed with no impaired waters may be undesirable.
- It should be dependant on the goals of the project, and the overall goals of the program.
- Mitigation should be based on the most important functions and they may be localized.
- For aquatic and riparian habitat, closer is better assuming society wants those functions and values at that location; although that may not hold up, society may want to move those functions and values to a more sustainable place.
- A particular mitigation location can be competition for several applicants.
- We have to consider availability, fair market value and landowner willingness; we can only pay fair market value.
- From a financial perspective, cost is a factor; if you move it off the property, then you need to find another location, which could be cheaper or more expensive.
- Economics has to play into the mitigation decision, but we'd rather do the most functional good for the same cost.
- The applicant proposes the mitigation – the agencies can't force them into something else if it's adequate mitigation for the impact. The agencies are somewhat obligated to accept it if it's reasonable.
- If you can focus mitigation efforts in impaired watersheds, maybe we can delist them.
- There is a difference between a good site and a convenient site. A good site might not be closer or cheaper.
- We should encourage folks to look upstream for mitigation opportunities.

The group was asked does the stream order of the mitigation vs. the impacted order matter and if so, how. The answers included:

- 1st order to 1st order seems too simplified.
- There is no simple answer, it needs to be case by case.
- More good can be done by collectively fixing low order streams.
- If you choose to use a foot to foot basis then you should stay in the order of the impact.
- It's possible to use area of impact (rather than linear impact) and maybe do mitigation to a larger stream but less length.

Other Stakeholder Comments and Questions:

- Definitions of different types of mitigation are needed.
- Kentucky uses an ecological integrity index value, and in mitigation you have to improve the net ecological value.
- Impact provides an opportunity to do something good elsewhere, when impact and mitigation are coupled, you limit your options. Conceptually, you're best to leave the options open to focus on agency and regional priorities.
- The challenge is to make sure to balance both small and larger streams and balance the incentives (financial incentives). Many states set it up so they only get preservation because of disincentives to maximize functional uplift.
- IDEM doesn't have a target or focus list of where mitigation is needed, so it should be as close as possible.
- Most important thing is that system is created with balance, so there is an incentive to try restoration. A system that makes it fair and balanced to the impact.
- If we're going for functions and values, sometimes enhancement may be the best; you may pay a higher price, but it's worth it from functions and values perspective.
- The best approach is to use synergy in mitigation and have restoration, enhancement and preservation blended together to create a better holistic mitigation site.
- Mitigation should be put in a place where nature is going to help sustain it, and by putting it where it once was, it's usually cheaper.
- We should maximize the potential for an ecologically sustainable mitigation site.
- If you base mitigation on incentivizing ecological lift and focus on functions, the good projects become obvious.